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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,639

03/30/2004

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07/02/2007

EXAMINER

CUTLER, ALBERT H

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

07/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/812,639

Applicant(s)

AJIKI ET AL.

Examiner

Albert H. Cutler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is responsive to application 10/812,639 filed on March 30, 2004. Claims 1-8 are pending in the application and have been examined by the examiner.

Information Disclosure Statement

2. The Information Disclosure Statement (IDS) mailed on March 30, 2004 was received and has been considered by the examiner.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

4. The disclosure is objected to because of the following informalities: Lack of clarity and precision.

Page 8, line 3 of the specification recites, "terminal portions 22d". However, figure 1D shows no reference to said, "22d". Please change either the specification to recite the appropriate reference number, or figure 1D to include reference number 22d in the appropriate location. Appropriate correction is required.

Claim Objections

5. Claims 6 and 8 are objected to because of the following informalities: Lack of clarity and precision.

Claims 6 and 8 recite, "an electrode pad is formed in a lower portion of the compact camera module that includes a lens and a solid image pickup device". However, a lens and a solid image pickup device have already been recited previously in the claims. Please remove, "a lens and a solid image pickup device" as similarly done for claim 5, or amend the claims to read, "an electrode pad is formed in a lower portion of the compact camera module that includes **the** lens and **the** solid image pickup device". Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 4, 5, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Segawa et al.(US 2002/0057468).

Consider claim 1, Segawa et al. teach:

A mounting structure (figure 2) for installing a compact camera module ("photoelectric conversion module", 6) into a socket (See figure 4 for explanatory purposes. The top part of figure 4 is the camera module (6) including a lens (5) and an image sensor (7). The module is mounted into a socket (i.e. the bottom part of figure 4), comprising a connector (12) and a board (1).), the mounting structure (see figure 2) comprising:

an electrode pad ("flexible board", 8) formed in a lower portion of the compact camera module (6) that includes a lens (5) and a solid image pickup device (7);

a contacting member (15) having a contacting end and a springy portion (The contacting member is a "spring electrode", paragraph 0034. Therefore, the contacting end and the springy portion are one in the same, as the contacting end is part of a springy portion.) disposed in the socket (See figure 2, paragraph 0034. Spring electrodes (15) are connected to connectors (12) in the socket.), the electrode pad (8, specifically 8b) and the contacting end (15) being in contact when the lower portion (7) of the compact camera module (6) is inserted into the socket (See paragraphs 0034-0039. "The terminal 8b is thereby firmly connected to the electrodes 15."); and

a depressed portion formed on the lower portion of the compact camera module (See figures 2 and 4. The camera module contains a depressed portion on the lower portion between the image sensor (7) and the lens holder (13). This depressed portion is where the connector (12, figure 2) is fitted.) to accommodate the springy portion of the contacting member (15) so that the lower portion of the compact camera module (6) does not make contact with the springy portion of the contacting member (15)

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when the lower portion of the compact camera module(6) is inserted into the socket(The lower portion(7), comprising the image sensor, of the camera module(6) is inserted into the socket(see figures 2 and 4). This portion does not make contact with the springy portion(15) of the contacting member when the camera module(6) is inserted into the socket(see figure 2).).

Consider claim 2, Segawa et al. teach:

A mounting structure(figure 2) for installing a compact camera module("photoelectric conversion module", 6) into a socket(See figure 4 for explanatory purposes. The top part of figure 4 is the camera module(6) including a lens(5) and an image sensor(7). The module is mounted into a socket(i.e. the bottom part of figure 4), comprising a connector(12) and a board(1).), the mounting structure(see figure 2) comprising:

an electrode pad("flexible board", 8) formed in a lower portion of the compact camera module(6) that includes a lens(5) and a solid image pickup device(7);

a contacting member(15) having a contacting end(The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket(See figure 2, paragraph 0034. Spring electrodes(15) are connected to connectors(12) in the socket.), the electrode pad(8, specifically 8b) and the contacting end(15) being in contact when the lower portion(7) of the compact camera module(6) is inserted into the socket(See paragraphs 0034-0039. "The terminal 8b is thereby firmly connected to the electrodes 15."); and

an engagement member(15) disposed in the socket to lock the compact camera module(6) when the lower portion of the compact camera module is inserted into the socket so that the compact camera module(6) does not separate from the socket(Pressure between the spring electrode(15) and the electrode pad(8b) holds(i.e. locks) the camera module(6) in the socket. See paragraphs 0034-0039.)

Consider claim 4, Segawa et al. teach:

A mounting structure(figure 2) for installing a compact camera module("photoelectric conversion module", 6) into a socket(See figure 4 for explanatory purposes. The top part of figure 4 is the camera module(6) including a lens(5) and an image sensor(7). The module is mounted into a socket(i.e. the bottom part of figure 4), comprising a connector(12) and a board(1).), the mounting structure(see figure 2) comprising:

an electrode pad("flexible board", 8) formed in a lower portion of the compact camera module(6) that includes a lens(5) and a solid image pickup device(7);

a contacting member(15) having a contacting end(The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket(See figure 2, paragraph 0034. Spring electrodes(15) are connected to connectors(12) in the socket.), the electrode pad(8, specifically 8b) and the contacting end(15) being in contact when the lower portion(7) of the compact camera module(6) is inserted into the socket(See paragraphs 0034-0039. "The terminal 8b is thereby firmly connected to the electrodes 15.");

a recess formed on the lower portion of the compact camera module(See figures 2 and 4. The camera module contains a recessed portion on the lower portion between the image sensor(7) and the lens holder(13). This depressed portion is where the connector(12, figure 2) is fitted.); and

a cutout formed on the socket at a position in correspondence to the recess, the recess facing the cutout when the lower portion of the compact camera module is inserted into the socket(See figures 2 and 4. The connector(12) of the socket contains a cutout portion on the outside edge thereof, which cutout portion faces the recessed portion of the camera module, and accommodates the flexible board(8).),

wherein the recess is engagable with a de-installation tool through the cutout when the lower portion of the compact camera module is inserted into the socket(The recess and cutout are engagable with the spring electrode(15, i.e. a deinstallation tool), which connects the recessed portion and cutout portion when the camera module is inserted into the socket, paragraphs 0034-0039.).

Consider claim 5, Segawa et al. teach:

A compact camera module set(figure 2), comprising:

a compact camera module(6) including a lens(5) and a solid image pickup device(7); and

a socket(See figure 4 for explanatory purposes. The top part of figure 4 is the camera module(6) including a lens(5) and an image sensor(7). The module is mounted

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into a socket(i.e. the bottom part of figure 4), comprising a connector(12) and a board(1).),

wherein an electrode pad("flexible board", 8) is formed in a lower portion of the compact camera module(6);

a contacting member(15) having a contacting end and a springy portion(The contacting member is a "spring electrode", paragraph 0034. Therefore, the contacting end and the springy portion are one in the same, as the contacting end is part of a springy portion.) disposed in the socket(See figure 2, paragraph 0034. Spring electrodes(15) are connected to connectors(12) in the socket.), the electrode pad(8, specifically 8b) and the contacting end(15) being in contact when the lower portion(7) of the compact camera module(6) is inserted into the socket(See paragraphs 0034-0039. "The terminal 8b is thereby firmly connected to the electrodes 15."); and

a depressed portion formed on the lower portion of the compact camera module(See figures 2 and 4. The camera module contains a depressed portion on the lower portion between the image sensor(7) and the lens holder(13). This depressed portion is where the connector(12, figure 2) is fitted.) to accommodate the springy portion of the contacting member(15) so that the lower portion of the compact camera module(6) does not make contact with the springy portion of the contacting member(15) when the lower portion of the compact camera module(6) is inserted into the socket(The lower portion(7), comprising the image sensor, of the camera module(6) is inserted into the socket(see figures 2 and 4). This portion does not make contact with the springy

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portion(15) of the contacting member when the camera module(6) is inserted into the socket(see figure 2).).

Consider claim 6, Segawa et al. teach:

A compact camera module set(figure 2), comprising:

a compact camera module(6) including a lens(5) and a solid image pickup device(7); and

a socket(See figure 4 for explanatory purposes. The top part of figure 4 is the camera module(6) including a lens(5) and an image sensor(7). The module is mounted into a socket(i.e. the bottom part of figure 4), comprising a connector(12) and a board(1).),

wherein an electrode pad("flexible board", 8) is formed in a lower portion of the compact camera module(6) that includes a lens(5) and a solid image pickup device(7);

a contacting member(15) having a contacting end(The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket(See figure 2, paragraph 0034. Spring electrodes(15) are connected to connectors(12) in the socket.), the electrode pad(8, specifically 8b) and the contacting end(15) being in contact when the lower portion(7) of the compact camera module(6) is inserted into the socket(See paragraphs 0034-0039. "The terminal 8b is thereby firmly connected to the electrodes 15."); and

an engagement member(15) disposed in the socket to lock the compact camera module(6) when the lower portion of the compact camera module is inserted into the socket so that the compact camera module(6) does not separate from the socket(Pressure between the spring electrode(15) and the electrode pad(8b) holds(i.e. locks) the camera module(6) in the socket. See paragraphs 0034-0039.)

Consider claim 8, Segawa et al. teach:

A compact camera module set(figure 2), comprising:

a compact camera module(6) including a lens(5) and a solid image pickup device(7); and

a socket(See figure 4 for explanatory purposes. The top part of figure 4 is the camera module(6) including a lens(5) and an image sensor(7). The module is mounted into a socket(i.e. the bottom part of figure 4), comprising a connector(12) and a board(1).),

wherein an electrode pad("flexible board", 8) is formed in a lower portion of the compact camera module(6) that includes a lens(5) and a solid image pickup device(7);

a contacting member(15) having a contacting end(The contacting member is a "spring electrode", paragraph 0034.) disposed in the socket(See figure 2, paragraph 0034. Spring electrodes(15) are connected to connectors(12) in the socket.), the electrode pad(8, specifically 8b) and the contacting end(15) being in contact when the lower portion(7) of the compact camera module(6) is inserted into the socket(See

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paragraphs 0034-0039. "The terminal 8b is thereby firmly connected to the electrodes 15.");

a recess formed on the lower portion of the compact camera module(See figures 2 and 4. The camera module contains a recessed portion on the lower portion between the image sensor(7) and the lens holder(13). This depressed portion is where the connector(12, figure 2) is fitted.); and

a cutout formed on the socket at a position in correspondence to the recess, the recess facing the cutout when the lower portion of the compact camera module is inserted into the socket(See figures 2 and 4. The connector(12) of the socket contains a cutout portion on the outside edge thereof, which cutout portion faces the recessed portion of the camera module, and accommodates the flexible board(8).), the recess being engagable with a de-installation tool through the cutout when the lower portion of the compact camera module is inserted into the socket(The recess and cutout are engagable with the spring electrode(15, i.e. a deinstallation tool), which connects the recessed portion and cutout portion when the camera module is inserted into the socket, paragraphs 0034-0039.).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. in view of Akimoto et al. (US 2002/0191103).

Consider claim 3, and as applied to claim 2 above, Segawa et al. teach of a socket and an engagement member. However Segawa et al. do not explicitly teach that the socket comprises a grounding contact member, or that the engagement member is a portion of the grounding contacting member.

Akimoto et al. is similar to Segawa et al. in that Akimoto et al. also teach of a camera module connected to a socket (see figure 2, paragraphs 0023-0027). Akimoto et al. also similarly teach of electrodes connected to the camera module (11, figures 1-3, paragraphs 0019, 0028, and 0029).

However, in addition to the teachings of Segawa et al., Akimoto et al. teach that one of the electrodes (11a, figures 3 and 4) is a grounding contact member (paragraphs 0028 and 0029).

The spring electrodes taught by Segawa et al. are engagement members (see claim 2 rationale). Therefore, if one of the spring electrodes of Segawa et al. is a

ground electrode as taught by Akimoto et al., then the engagement member is a portion of the ground contacting member.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a grounding contact member as taught by Akimoto et al., as one of the spring electrodes taught by Segawa et al. for the benefit of preventing charge buildup and providing assistance in the alignment of the camera module by indicating a correct orientation to a user(Akimoto et al., paragraphs 0028 and 0029).

Consider claim 7, and as applied to claim 6 above, Segawa et al. teach of a socket and an engagement member. However Segawa et al. do not explicitly teach that the socket comprises a grounding contact member, or that the engagement member is a portion of the grounding contacting member.

Akimoto et al. is similar to Segawa et al. in that Akimoto et al. also teach of a camera module connected to a socket(see figure 2, paragraphs 0023-0027). Akimoto et al. also similarly teach of electrodes connected to the camera module(11, figures 1-3, paragraphs 0019, 0028, and 0029).

However, in addition to the teachings of Segawa et al., Akimoto et al. teach that one of the electrodes(11a, figures 3 and 4) is a grounding contact member(paragraphs 0028 and 0029).

The spring electrodes taught by Segawa et al. are engagement members(see claim 6 rationale). Therefore, if one of the spring electrodes of Segawa et al. is a

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ground electrode as taught by Akimoto et al., then the engagement member is a portion of the ground contacting member.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a grounding contact member as taught by Akimoto et al., as one of the spring electrodes taught by Segawa et al. for the benefit of preventing charge buildup and providing assistance in the alignment of the camera module by indicating a correct orientation to a user(Akimoto et al., paragraphs 0028 and 0029).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert H. Cutler whose telephone number is (571)-270-1460. The examiner can normally be reached on Mon-Fri (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571)-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC



LIN YE
PRIMARY PATENT EXAMINER